

7

Science Standard
7.3.a.



Shaping Natural Systems through Evolution

California Education and the Environment Initiative

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California Environmental Protection Agency
California Natural Resources Agency
Office of the Secretary of Education
California State Board of Education
California Department of Education
California Integrated Waste Management Board

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Key Partners:

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Lesson 1 Natural Selection and Evolution

- 1 Pupfish 2
- 2 California Lakes: Then and Now..... 3

Lesson 2 Evidence of Evolution

- 3 *Tegula* Snail Research..... 4
- 4 Evolution Notes 1 5
- 5 Evolution Notes 2 6
- 6 Evolution Notes 3 7

Lesson 3 Simulating Variation and Natural Selection

- 7 Darwin's Finches 8

Lesson 4 California's Diversity: Environmental Factors and Evolution

- 8 California's Climate Zones..... 9

Lesson 5 From Bananas to Prairie Chickens: How Humans Influence Evolution

- 9 Wild Bananas..... 10

Lesson 6 Revisiting the Pupfish: Human Activities and Evolution

- 10 Human Influence on Evolution..... 11

VA #1 Pupfish



VA #2 California Lakes: Then and Now

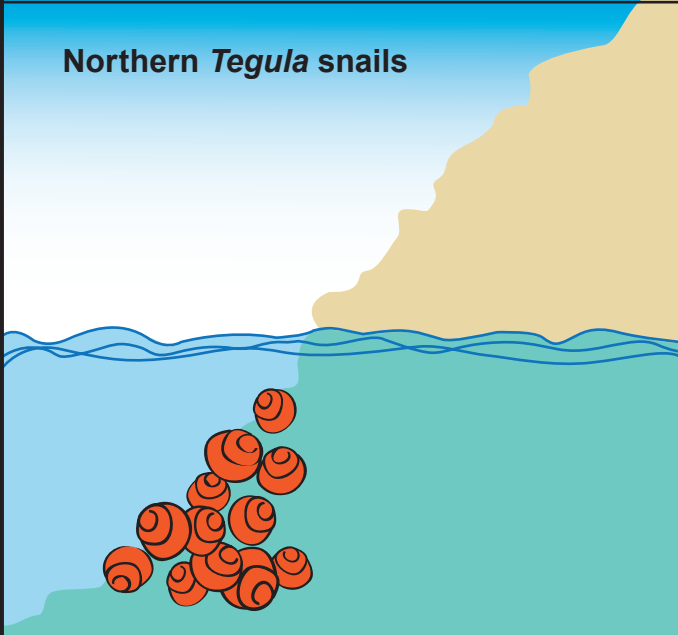


VA #3 *Tegula* Snail Research

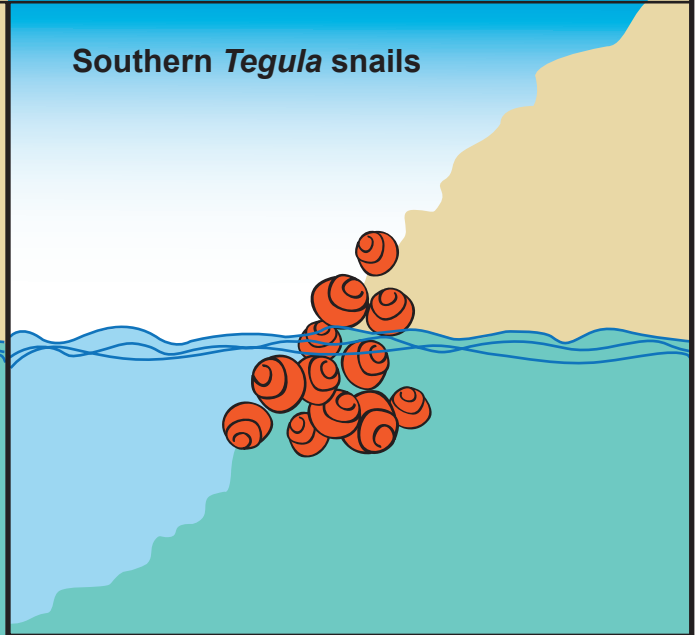
Tegula funebris (black turban snail)



Northern *Tegula* snails



Southern *Tegula* snails



VA #4 Evolution Notes 1

Variation...

A species of organisms displays variety in inherited traits.

If the genes for a trait do not exist in a population, that trait cannot be selected.

Genetic mutations result in different new traits (some beneficial, some detrimental, some with no effect).

Mutations are random, but selection of their traits expressed in a population is not random.



... allows for Natural Selection.

VA #5 Evolution Notes 2

Environment...

In certain environments, some traits are more useful than others.

Those traits that are favorable in that environment are adaptations.

Adaptations allow an organism to survive and reproduce in a particular environment. When an environment changes (due to human activities, natural disasters, and more), the traits that are adaptive and get “selected” may change.



... results in Natural Selection.

VA #6 Evolution Notes 3

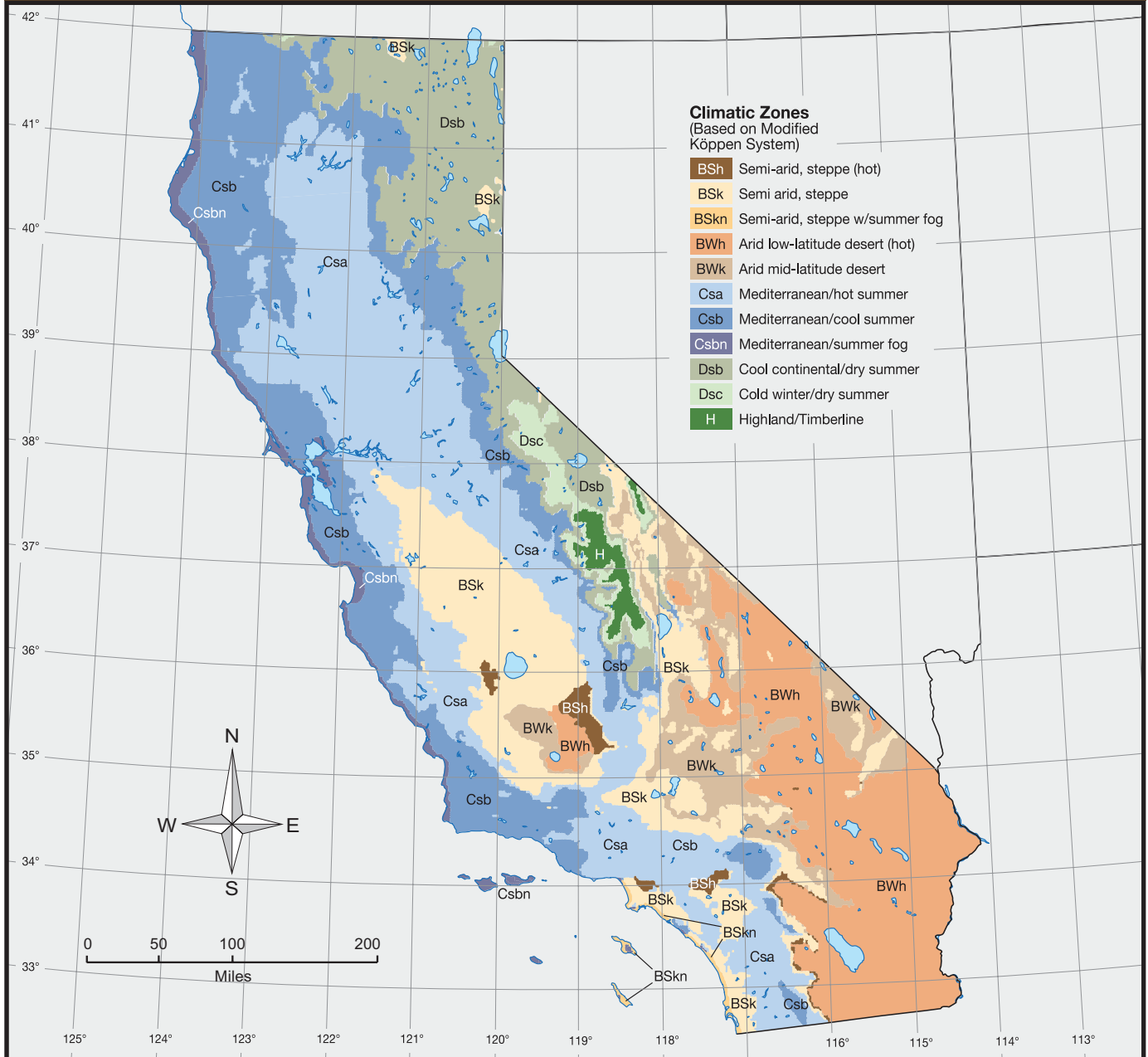
A trait is more likely to be passed on to the next generation when it helps the organism to:

- Survive (avoid predators; find food)
- Find a mate
- Reproduce

Traits that help an organism to do these three things (survive, find a mate, and reproduce) are more likely to be found in more offspring in subsequent populations.

VA #7 Darwin's Finches**Large Ground Finch****Small Ground Finch****Vegetarian Finch****Large Cactus Finch****Cactus Finch****Medium Ground Finch****Small Tree Finch****Warbler Finch****Wood Finch**

VA #8 California's Climate Zones

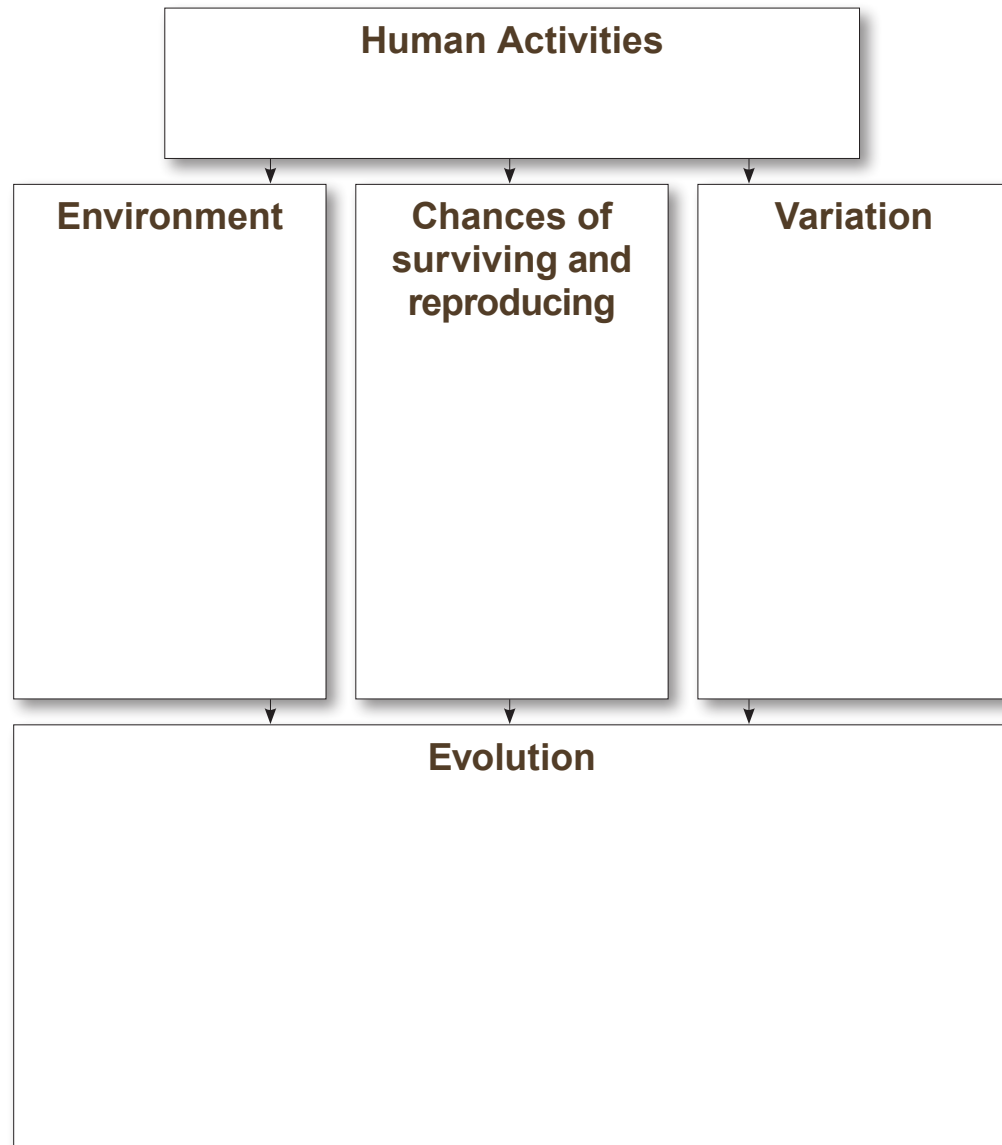


VA #9 Wild Bananas



VA #10 Human Influence on Evolution

Species: _____





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